

NOV 17 2004

VersaMed Medical Systems Inc.  
2 Blue Hill Plaza Bldg. 2  
Pearl River, NY 10965  
USA

K042468

**Non-Confidential Summary of Safety and Effectiveness**

**Summary of Safety and Effectiveness**

**Submitter's Name:**

VersaMed Medical System Inc.

**Contact Person:**

Mr. Dean ~~Mc~~Beth  
Tel: 845 770 8240  
Fax: 845 770 8250

**Trade Name:**

*iVent*<sup>TM</sup> 201

**Classification Name:**

Anesthesiology

**Classification:**

CBK, DQA, NOU.

**Predicate Devices:**

The iVent™ 201 Portable Ventilator is substantially equivalent to:

- iVent™ 201 with pulse oximeter cleared under K021981
- iVent™ 201 with remote alarm cable cleared under K011957

**Performance Standards:**

No performance standards have been established for such devices under Sections 514 of the Federal Food, Drug, and Cosmetic Act. However, the *iVent™ 201* portable ventilator complies with the following voluntary standards:

ASTM F 1100-90  
ASTM F 1246-91  
MIL-STD-810E  
ISO 10651-1/2/3  
IEC 60601-1  
IEC 60601-2-12  
IEC 60601-1-2  
ISO 9919  
EN 865 (section 6)

**Device Description:**

The iVent201 is a compact, portable, fully featured, microprocessor-controlled ventilator offering the versatility and capability of larger and costlier ventilators. A turbine-powered air source and a rechargeable internal battery provide freedom from wall air and power outlets. An intuitive turn-and-click control knob, quick-choice pushbuttons, and a bright, well-organized, easy-to-read screen allow rapid control and continuous real-time monitoring of patient ventilation. Alarm settings are fully adjustable. Optional Waveform and Diagnostic Software package displays pressure and flow waveform data, loops, trends, and logged totals in a full array of time slices and presentation modes.

**Description of Non-invasive Pulse Oximeter (Cleared under K 021981):** The Non-invasive Pulse Oximeter connects to sensors and provides oxygen saturation, pulse rate, pulse waveform, and other output information via a serial digital interface. The iVent 201 systems provide DC power and isolation to the board from the mains power and ground.

The Non-invasive Pulse Oximeter board is mounted internal to the iVent 201 unit and is part of the electronic configuration of the unit. Connection of the Pulse Oximeter accessories is via a connector on the back panel of the unit.

**Description of remote Alarm Adaptor (cleared under K 011957):** The adapter connects between a Remote Alarm outlet on the iVent 201 Ventilator and the Central Remote Alarm unit of the Hospital. The adapter consists of a relay circuit, which meets activating requirements of the Central Remote Alarm unit. The iVent 201 Ventilator with Remote Alarm Adapter will activate the Central Remote Alarm unit for any major or medium priority alarm event that occurs on the unit.

**Substantial Equivalence:**

The iVent™ 201 is viewed as substantially equivalent to the following predicate devices K 021981 iVent™ 201 with pulse oximeter and K 011957 iVent™ 201 with remote alarm cable.

There are no significant differences between the iVent™ 201 portable ventilator and the predicate devices that affect the safety or effectiveness of the intended device as compared to the predicate devices. The iVent 201 is viewed as substantially equivalent to the predicate devices since they:

1. Have the same intended use:
  - 1.1 The iVent™ 201 is a portable, computer controlled, electrically powered ventilator intended to provide continuous or intermittent ventilatory support for the care of individuals who require mechanical ventilation.
2. Have the same environment for use:
  - 2.1 intra-hospital use, home and alternate-site use, transport and emergency use.
3. Have the same patient population :
  - 3.1 this system can be used with adult and pediatric patients weighing at least 10 kg (22 lb.).
4. Are similar in design
5. Employ the same technology
6. Are made of identical materials



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

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Mr. Jerry Korten  
President and CEO  
VersaMed Medical System, Incorporated  
2 Blue Hill Plaza  
P.O. Box 1512  
Pearl River, New York 10965

Re: K042468  
Trade/Device Name: iVent™ 201 Portable Ventilator  
Regulation Number: 868.5895  
Regulation Name: Continuous Ventilator  
Regulatory Class: II  
Product Code: CBK  
Dated: October 22, 2004  
Received: October 25, 2004

Dear Mr. Korten:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies.

Page 2 – Mr. Korten

You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (240) 276-0120. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Chiu Lin', with a stylized flourish at the end.

Chiu Lin, Ph.D.

Director

Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known): K042468

Device Name: **iVent™ 201 Portable Ventilator**

### Indications for Use:

The **iVent™ 201** is a portable, computer controlled, electrically powered ventilator intended to provide continuous or intermittent ventilatory support for the care of individuals who require mechanical ventilation. Specifically, the ventilator is applicable for adult and pediatric patients weighing at least 10 kg (22 lb.), who require the following general modes of ventilatory support, as prescribed by an attending physician:

- Assist/Control (Pressure Controlled or Volume Controlled)
- SIMV (Pressure Controlled or Volume Controlled)
- CPAP/PSV

The **iVent™ 201** ventilator with Non-invasive Pulse Oximeter is suitable for intra-hospital use, home and alternate-site use, transport and emergency use. The Non-invasive Pulse Oximeter is intended for non-invasive monitoring of oxygen saturation and pulse rate.

The **iVent™ 201** ventilator is a restricted medical device intended for use by qualified, trained personnel under the direction of a physician and within the technical specification limits.

Prescription Use - Required ☒  
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use - Not allowed  
(21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE OF NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

  
(Division Sign-Off)

Division of Anesthesiology, General Hospital,  
Infection Control, Dental Devices

510(k) Number: 12042 468